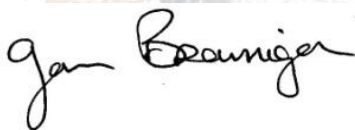


MESSAGE FROM THE PROJECT LEADER

It's the beginning of another year for the RASLRES project and a time to look back on the outputs of 2011 and to take the opportunity to thank all those who work as part of the RASLRES team, across the partner locations for their commitment and continued drive to make this project reach its full potential. Highlights of progress and development on the project during 2011 year included:

- the publication of an energy crop report for the West of Ireland [Energy crop opportunities in the Western Region](#)
- Bioenergy workshop in Donegal Ireland [Building local wood heat markets](#)
- Northern Ireland our RASLRES lead Action Renewables support event for the [renewable heat incentive scheme](#)
- Sweden -Norsjö municipality involvement in the [Swedish energy efficiency programme](#)
- Two learning journeys by the RASLRES team to Sweden
- [Wood Energy Workshop](#) held in Galway
- Publication of a Wood Energy Guide '[Using local timber to heat your home](#)'

Your continued interest and engagement with the project is what makes it a success so please do continue to communicate with us via our social media channel at www.twitter.com/raslres and our project website www.raslres.eu.



Ian Brannigan

CEO (Acting) / Regional Development Manager
Western Development Commission
RASLRES Project Lead

IN THIS ISSUE

PROJECT UPDATE FROM THE WESTERN DEVELOPMENT COMMISSION

PROJECT PARTNER NEWS

IRELAND

[RASLRES Renewable Energy Workshop, Galway](#)

NORTHERN IRELAND

[1MW Biomass Boiler and District Heating Network installed at Camphill Glenraig, Northern Ireland](#)

[Life Cycle Assessment Shows Centres Carbon Savings](#)

SWEDEN

[RASLRES Team Visit Biomass Research Centre in Northern Sweden](#)

RASLRES PARTNER MEETING

GET INVOLVED

ABOUT RASLRES

Project Partner News

IRELAND

RASLRES Renewable Energy Workshop, Galway

Over 80 industry delegates participated in the RASLRES workshop held on 15th November in Tuam, Co. Galway. The event brought together industry experts, public sector heat users, installation companies, fuel suppliers, and local development players to progress local actions to drive the growth of wood energy supply chains in the region.

A highlight of the day was the launch of the wood energy guide 'Using local timber to heat your home' delivered by RASLRES in partnership with Teagasc and the County Clare Wood Energy Project. This brochure is an 'all you need to know guide' for end users in considering wood fuel for their homes and businesses. It provides practical information for homeowners and small-scale businesses on boiler types, sourcing suitable appliances, types of fuel available and practical tips for wood storage. It includes checklists for buying firewood and appliances intended for use when making investment decisions for small-scale installations. With this brochure, RASLRES aims to build



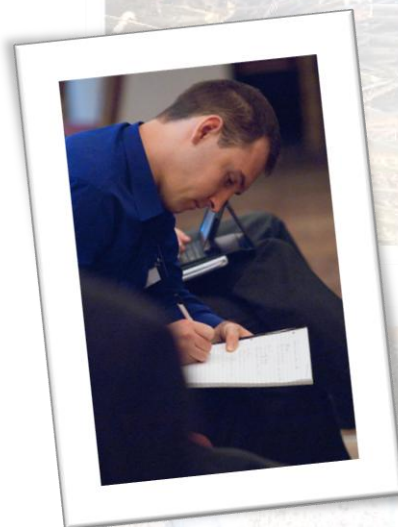
general market awareness of wood energy technologies and fuel options.

The workshop provided market information and insights to those who have an interest in being part of the wood energy community. It highlighted the lessons learned from the RASLRES project and outlined how the wood energy sector is operating in the region. Key market research includes a survey of installations in the region (boiler range of 60kW to 1MW) and a review of the woodchip supply chain (reports are available for download at www.raslres.eu).

A central part of the day was the presentation of case studies on public sector deployment projects including:

- Cahercalla Community Hospital & Hospice in Ennis on the installation and operation of a 300kW boiler
- Teagasc Mellows Campus, Athenry on the design and procurement of a 250kW boiler heating three buildings
- Department of Education on the biomass research and demonstration project

These case studies looked at technical and financial issues and highlighted key areas for project development in the public sector. Following the case studies Donegal County Council outlined their role to date in supporting the bioenergy market. The experience of the County Council identified a number of key factors in initiating local supports for the sector including the vital need for stakeholder collaboration across the supply chain, the leadership role provided by the County Development Board, and the need for local champions to engage the community.



The experience of the Scottish market was presented as a comparison for the Western Region. In Scotland the barriers to public sector deployment were identified as limited access to investment funds, no standard investment appraisal tools, no standard contracts/procurement options, concerns over continuity of supply and price of fuel, together with limited internal expertise and capacity. The solution adopted in Scotland has been to develop Energy Service Contracts (ESCOS), and this was agreed as a viable option in the Irish market.



A highly innovative aspect of the event was the focus on the role of ESCO contracts and issues for their adoption. The ESCO allows for the wood energy supplier to design, install, and finance the wood energy system, and then operates the system and provide metered heat to the user. This contract option allows for one integrated supplier for fuel and equipment, with one expert designer and one supplier of Operation & Maintenance services. In addition there is no capital outlay for the heat user and there are low risks in-retro fit situation. The model ESCO contract in development by the RASLRES team for the Irish market was then reviewed in detail in a group discussion.

A second group discussion session focused on the experiences of the County Clare Wood Energy Project, and a new initiative spearheaded by Mayo County Council, *Renewable Energy Mayo*. This provided local development agencies and activities with the opportunity to discuss market development strategies to support the establishment and growth of local wood energy supply chains. The third discussion group looked at small-scale installations and issues for fuel supply.

Engagement from the sector in the workshop allowed industry to understand the issues and challenges affecting sectoral growth. The RASLRES workshop served to identify and progress new enterprise initiatives in the wood energy sector, and looked at innovative ways to overcome current market barriers. The outputs from the event allow RASLRES to further develop meaningful supports to respond effectively to market need and continue growth in the sector for the Western Region.

For further information on activities in the Western Region of Ireland please contact Bernadette Phelan at bernadettephelan@wdc.ie



[Back to contents](#)

NORTHERN IRELAND

1MW Biomass Boiler and District Heating Network installed at Camphill, Glenraig, Northern Ireland

There are four Camphill Communities in Northern Ireland. Glenraig Community near Holywood in Co. Down, Mourne Grange near Killeel in Co. Down, Clanabogan near Omagh in Co. Tyrone and a bakery, coffee shop and Shop in the centre of Holywood in Co. Down. There are also 13 communities in South of Ireland. Camphill was established to work with those in special needs because of their various mental, emotional, or behavioural disabilities and this is still its principal role today.

In Northern Ireland the Camphill Communities Trust (NI) is a registered charity - composed of interested friends and members of the Communities. It provides support and advice on development and finance and other matters concerning the welfare of all four Camphill communities.

In 2010 the Camphill community at Glenraig was successful in winning a £400,000 grant from the Department of Energy and Climate Change's Low Carbon Communities Challenge (LCCC) to reduce carbon emissions, improve local energy efficiency, make savings on fuel costs, and create local employment opportunities. This funding was utilized to install a 1MW biomass boiler and district heating system to service their heating needs and the heating demands of neighboring buildings.

After a competitive tendering process, Austrian boiler manufacturer URBAS was selected as the technology of choice. URBAS designed a 3.4km district heating layout and provided designs for the boiler house and fuel storage area. URBAS were assisted by Northern Ireland agent, RS Biomass. Initial preparation work began in late 2010 and the boiler was delivered to site in February 2011. As is the nature of many boiler installations of this scale, the boiler house was constructed around the boiler in March / April 2011. The district heating network was installed and tested in April 2011, with initial commissioning of the system in May.



KEY FACTS AND FIGURES

Total Installed Capacity	1MW
Length of District Heating Network	3.4KM
Moisture content of fuel accepted	65% Locally Sourced Wood Chip
Size of fuel store	160m³ with additional 200m³ spare capacity elsewhere on site
Total Cost	£750,000.00
Grant Funding	£400,000.00

For more information visit www.glenraig.org.uk

Life Cycle Assessment Shows Centres Carbon Savings

As part of the RASLRES project the Environmental Research Institute (ERI) in Thurso is developing a life cycle assessment (LCA) tool to evaluate carbon savings as a result of switching to biomass. The development of this carbon foot-printing tool should allow biomass users to easily demonstrate the environmental credentials of their operation. While simple carbon calculators are readily available on the internet they generally only use averaged values based on typical process parameters. However, in order to get a full understanding of the carbon footprint of any operation it is essential to carry out a full analysis of your process in terms of the energy and raw materials you use.

The Publicly Available Standard 2050 for the assessment of the life cycle greenhouse gas emissions of goods and services (PAS 2050) has gained popularity in defining the emissions associated with specific processes. While being much simplified compared to classic LCA methodology the application of PAS 2050 can still be daunting, especially for small organisations. Researchers at the ERI are developing a simplified carbon foot printing tool based on PAS 2050 specifically designed to be used in determining the carbon footprint of biomass based energy production. Simplified process maps and questionnaires have been produced to allow the required information to be gathered in order to compare the carbon footprint of biomass heat production compared to the fuel type it replaces

Researchers at the ERI have recently trialled the toolkit at Castlehill Heritage Centre. The centre in Castletown in the north of Scotland is a visitor centre and local resource providing space for local community groups and educational programmes. In 2008 they installed a biomass boiler burning logs as a replacement for their electrical space heaters which were both expensive and inefficient.



Castlehill Heritage Centre

In trialling the carbon foot-printing toolkit at the Castlehill Heritage Centre it has been shown that the installation of a biomass boiler has led to a reduction of their carbon footprint by 8,555 kg of carbon dioxide equivalents per year.

[Back to contents](#)

SWEDEN

RASLRES Team Visit Biomass Research Centre in Northern Sweden

A group representing the RASLRES partners recently visited the Biomass Technology Centre (BTC), in R b cksdalen near Umea, which is part of the Unit of Biomass Technology and Chemistry at the Swedish University of Agricultural Sciences.

The unit provides facilities for researching and demonstrating the effectiveness of integrated energy crop supply chains, covering crop production, fuel handling and the production of briquettes and pellets. Combustion studies in boilers of various sizes and configurations can also be carried out. Work focuses on the development

of processes using both traditional biomass resources, such as pine and spruce, and on more unusual and exotic materials such as eucalyptus and grass species such as reed canary grass.

The facility comprises of a fuel cycle area and a boiler plant. In the fuel area the feasibility of processing raw materials to provide usable fuels is demonstrated in a fully functional industrial scale facility. Bulk raw materials, such as cylindrical bales of reed canary grass, are delivered to the plant and chopped in a low speed shredder prior to processing into either briquettes or pellets. Technology developed at the unit also allows blending of materials in precise ratios. Blended fuels, such as those containing peat and wood, can have enhanced combustion characteristics compared to homogenous fuels.

In the boiler plant various biofuel-mixtures can be burnt in two different boilers (one 650 kW and one 160 kW) and the combustion studied. The plant utilises a range of state-of-the-art analytical equipment which is used to monitor temperatures within the boilers and the emissions of greenhouse gases and other potential pollutants. The raw materials and the prepared fuels as well as ash produced as a waste product of combustion can also be analysed.



During the visit the group saw work on the production of pellets made from torrefied wood. Torrefication of biomass involves heating the material in the absence of oxygen to remove moisture and volatile compounds and partially break down some of the structural polymers. This process produces a fuel which has a higher energy density than traditional pellets making their transport more economical. Torrefication has the potential to make the transportation of wood pellets from remote areas more economical.

[Back to contents](#)

RASLRES PARTNER MEETING

The RASLRES project made its second trip to Sweden for a partner meeting on 29th November 2011. The programme started in Umeå and ended in Skellefteå with many visits to a variety of renewable energy sites based on biomass. Sweden enjoys a substantial forest resource and that resource will be the primary reason why Sweden will likely reach its EC 20-20-20 goals for renewable energy consumption in 2011 or 2012. Already, Sweden gets more of its total net energy from biomass than it does from fossil fuels (includes transport energy).

Shortly after arrival and just before dinner, the RASLRES team received presentations from Biofuel Region, a triple helix network operating in the northern half of Sweden with a primary focus on renewable transport fuels development, biomass-based energy production and bio-refinery development. Biofuel Region works closely with the Swedish RASLRES partner which is the Municipality of Norsjö. Another presentation featured a project called Forest Power and a new project pending called Forest Refine. Both projects are looking after more

efficient use and management of forest resources, as well as ways to increase the value of forest biomass and drive the region towards increased sustainable development using its vast forest resource.

After project meetings the second day of the programme, the RASLRES team visited the Biomass Technology Centre jointly operated by Umeå University and the Swedish University of Agricultural Sciences. The Center looks after research aiming to increase the quality of biomass fuels as well as investigations towards new fuels types from around the world. Following a short journey the RASLRES team stopped to visit a very large greenhouse operation that gets its heat energy from biomass. This greenhouse operation has been around for more than 50 years and sells its lettuce, herbs and flowers throughout Sweden. Of note, the winter temperatures in this part of Sweden can be colder than -40 C for this year-around operation.



After more morning project meetings, the RASLRES team spent the second night in Lycksele which is in the inland area of Northern Sweden. After meetings the next morning, the team visited a medium-sized combined heat and power (CHP) plant (66 MW) is fueled by forest biomass. The plant is owned by a regional utility and provides the heat energy for the municipal heating network in Lycksele, which has a population of about 8500 habitants. The CHP plant feeds about 16 MW of electricity into the grid when running at peak levels.

The last field visit was in a small village named Glommerstråk to see Glommersmiljöenergi AB. This company produces the highest quality wood pellets in Sweden at about 8,000 tonnes/year. This energy company also grows reed canary grass and processes it into fuel briquettes. The briquettes are used to fire a boiler that provides heat for a municipal apartment building. The ash from the grass is mixed with municipal sewage sludge and spread back on the grass fields as fertilizer. This process also neutralizes the sewage sludge in accordance with EU waste regulations.

The team didn't manage to see any snow due to an unusually warm autumn season, nor did they find the Northern Lights. They did however, get to experience a traditional Swedish Christmas buffet dinner and they did get to see a few reindeer!

[Back to contents](#)

RECEIVE OUR UPDATES

To find out more about the RASLRES project log on to www.raslres.eu or alternatively, if you wish to be included on our database please send your details to: info@raslres.eu. We look forward to hearing from you.



Follow us on Twitter at: www.twitter.com/raslres



WHAT IS RASLRES?

RASLRES is a €3 million European bio-energy project which seeks to grow the number of local businesses involved in the sector and is led by the Western Development Commission (WDC), Ireland with partners in Sweden, Scotland, Northern Ireland, the Faroe Islands and Finland. RASLRES is funded by the INTERREG IVB - Northern Periphery Programme. The RASLRES project will:

- build awareness of opportunities for rural communities to produce and supply locally produced biomass (wood, seaweed and energy crops) to towns and cities
- provide business development support to rural biomass producing communities
- development of biomass supply chains through direct business and community engagement

RASLRES is an international partnership which includes:

- Western Development Commission – Ireland
- Action Renewables - Northern Ireland, UK
- Environmental Research Institute, North Highland College - Scotland
- Municipality of Norsjö – Sweden
- Oceanrainforest Ltd – Faroe Islands
- VTT, Technical Research Centre – Finland

RASLRES will conclude with a showcase of the outputs from all partner regions in December 2012. Further details on the RASLRES project are available on www.raslres.eu

RASLRES www.raslres.eu

 Northern Periphery Programme 2007-2013
 Innovatively investing in Europe's Northern Periphery for a sustainable and prosperous future

 WDC
 WESTERN DEVELOPMENT COMMISSION
 COMMISSION ROIMÉANACH AN IARÉIR

 NORSJÖ kommun

 eri
 environmental research institute

 Action Renewables
 the future of energy, today

 European Union
 European Regional Development Fund

 European Union
 European Regional Development Fund

“ RASLRES >> Regional Approaches to Stimulating Local Renewable Energy Solutions ”